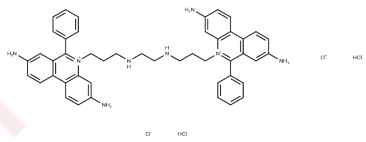
Data Sheet (Cat.No.T31696)

TargetMol

EthD-1

Chemical Properties



CAS No. : 61926-22-5

Formula: C46H50Cl4N8

Molecular Weight: 856.76

Storage: Keep away from direct sunlight
Store at -20°C
Actual storage temperature shall be subject to the COA.

Biological Description

Description	EthD-1 (Ethidium homodimer) is a high-affinity fluorescent nucleic acid dye that emits red fluorescence upon binding to DNA or RNA, with excitation/emission wavelengths of 528/617 nm. EthD-1 is impermeable to cells and cannot be used in live cells.
Targets(IC50)	Autophagy,DNA
In vitro	Instructions for the Use of EthD-1 (This protocol is for reference only and should be adjusted according to your specific experiment): 1. Stock Solution Preparation: Prepare a 2 mM EthD-1 stock solution using DMSO. Aliquot and store at -20°C or -80°C, protected from light. Avoid repeated freeze-thaw cycles. 2. Working Solution Preparation Dilute the stock solution with pre-warmed serum-free cell culture medium or PBS to a final concentration of 0.1–10 μM. Note: The optimal working concentration should be determined based on cell type and experimental requirements. The working solution must be prepared fresh before use. 3. Cell Preparation Suspension cells: Collect by centrifugation, wash twice with PBS (5 minutes each), and remove residual medium. Adherent cells: Discard the culture medium, detach cells using trypsin to create a single-cell suspension, centrifuge to remove supernatant, then wash twice with PBS (5 minutes each). Note: If not performing flow cytometry, adherent cells can be stained on coverslips. 4. Staining Incubation Add 1 mL of EthD-1 working solution and incubate at room temperature for 15–60 minutes, protected from light. Note: Prolonged incubation may lead to non-specific binding; it is recommended to optimize the incubation time via preliminary experiments. 5. Washing and Resuspension Centrifuge at 400 g for 3–4 minutes at 4°C to remove the staining solution. Wash cells twice with PBS (5 minutes each), then resuspend the cell pellet in 1 mL of serum-free culture medium or PBS. 6. Detect using fluorescence microscopy or flow cytometry. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1672 mL	5.8359 mL	11.6719 mL
5 mM	0.2334 mL	1.1672 mL	2.3344 mL
10 mM	0.1167 mL	0.5836 mL	1.1672 mL
50 mM	0.0233 mL	0.1167 mL	0.2334 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Gillan L, et al. Flow cytometric evaluation of sperm parameters in relation to fertility potential. Theriogenology. 2005 Jan 15;63(2):445-57

Kaplan LD. The analysis of articular cartilage after thermal exposure: "Is red really dead?". Arthroscopy. 2003 Mar; 19(3):310-3.

Chrambach A, et al. Commercial automated gel electrophoresis apparatus: application to DNA, band dispersion, nonlinear Ferguson curves, and isolation. Electrophoresis. 1995 May;16(5):713-8.

Joshua R Edwards, et al. A novel method for the evaluation of proximal tubule epithelial cellular necrosis in the intact rat kidney using ethidium homodimer. BMC Physiol. 2007 Feb 23;7:1.